Predictive Maintenance Model Development for Delivery Vehicles

The goal of this project is to develop a machine learning model that accurately predicts equipment failures in the fleet of delivery vehicles, achieving at least 90% accuracy. This model will utilize both historical performance and maintenance records, along with real-time sensor data, to optimize vehicle performance, reduce downtime, and enhance customer satisfaction.

Planning and Analyzing stages

Milestone	Tasks	Outcome/Deliverables	Estimated Time
Milestone 1 Planning and Data Collection	• Identify data sources (historical and real-time). • Collect data from delivery vehicles and maintenance logs.	• Data collection report. • Dataset ready for cleaning.	**2 weeks**
Milestone 2 Data Cleaning and Exploration	• Clean the collected data to handle missing values and outliers. • Explore data to understand patterns and correlations.	• Cleaned dataset. • Data exploration report summarizing findings.	**3 weeks**

Constructing and Executing stages

Milestone 3 Building and Testing ML Models	• Select suitable machine learning algorithms. • Train models using the cleaned dataset. • Validate model performance using appropriate metrics.	• Trained machine learning model. • Model evaluation report with accuracy metrics.	**4 weeks**
Milestone 4 Sharing Results and Insights	• Prepare a presentation summarizing the project outcomes. • Share insights and recommendations with stakeholders.	• Final project report. • Presentation slides for stakeholders.	**3 weeks**